



STATE OF MAINE  
DEPARTMENT OF CONSERVATION  
MAINE FOREST SERVICE  
Insect And Disease Laboratory  
168 State House Station--50 Hospital Street  
Augusta, Maine  
04333

JOHN ELIAS BALDACCI  
GOVERNOR

Patrick K. McGowan  
COMMISSIONER

IDM Home Page: <http://www.maine.gov/doc/mfs/idmhome.htm>

***Forest & Shade Tree - Insect & Disease Conditions for Maine***  
***June 15, 2009***

**Welcome Help**

Our Lab staff expanded the day after the Memorial Day holiday when three energetic Margaret Chase Smith Government Interns started their summer here. The three have been attacking the assignments given to them, and have set a high bar for the rest of the summer. Caroline Gallant graduated in May from the University of Maine at Farmington where she earned a Bachelor of Science in Environmental Science. Adam Douin and Jonathan Dumont, both expect to graduate with their Bachelor of Science degrees in May of 2011. Adam is enrolled at Unity College in the Environmental Science/Forestry Program. Jonathan is at the University of Maine, in the Biology Department. All three are a welcome addition to the Lab—we'll likely be wondering what to do without them when their internships are finished in mid-August.

**Notable Blog**

Bear in mind this bulletin's late arrival to the electronic age when reading the rest of this paragraph. Massachusetts extension has a blog (for those of you as tech deficient as we are, that is a Web log, a shared on-line journal) about introduced pests that is worth a visit: <http://massnrc.org/pests/blog/index.html>. Although it is Massachusetts-based, it has a lot of information relevant to Maine. Some of our least wanted forest insects including the Asian long-horned beetle and winter moth for example, have Massachusetts zip codes. The most recent posting has a great comparison of the native white-spotted sawyer and the non-native Asian long-horned beetle.

**Outreach Volunteers Sought**

The Maine Department of Agriculture is looking for volunteers who would be interested in spreading awareness about the Asian long-horned beetle (ALB). Volunteers would attend a full day training and be asked to conduct three or more outreach activities in their communities in July and August. Outreach activities include, but are not limited to, holding informational sessions, displaying information at public forums, and disseminating educational materials. The Department of Agriculture will provide materials for volunteers and loans of insects and sample tree damage displays. If you are interested in volunteering or would like more information, contact Anne Bills for more information [annebills@rocketmail.com](mailto:annebills@rocketmail.com) or 287-3892. Trainings are set for June 23<sup>rd</sup> in Bangor and June 25<sup>th</sup> in Gorham.

## **INSECTS**

**Aspen Leafroller** (*Psuedoxentera oregonana*?) – The quaking aspen along the interstate from Waterville to Bangor have noticeable defoliation on them for the third year. This year the prime cause is a leafroller, possibly *Psuedoxentera oregonana* but as often happens in May, we did not get up there until after the little critters were gone. The defoliation is not as intense as it has been the two previous years and there are not as many species involved.

**\*Balsam Gall Midge** (*Paradiplosis tumifex*) - Check Christmas tree plantings now for signs of galls. The galls are apparent on the new needles and sometimes cause the needles to curl, similar to balsam twig aphid damage but there is a bump on the needle rather than aphids and their cast skins. The population is moderate to high this year and defoliation may be noticeable this fall. Treat with Diazinon or chlorpyrifos (Lorsban) after the new growth flares. It is getting late to treat in southern Maine.

**\*Balsam Shootboring Sawfly** (*Pleroneura brunneicornis*) – Once damage from this pest of fir Christmas trees is noticed, it is too late for control. Notable levels of balsam shootboring sawfly damage were reported by a Nobleboro (Lincoln county) Christmas tree grower and found in a natural stand in Devereaux Township (Washington county). Damage from this pest looks similar to frost damage, but the stem will be hollow due to larval feeding. Early spring is the time to monitor for and if necessary apply controls for this insect.

**\*Balsam Twig Aphid** (*Mindarus abietinus*) – Twig aphid populations in forested stands are high again this year. The aphids feed on the newly emerging foliage causing it to twist and distort. The tips of the branches then look unsightly – not good for Christmas trees or wreaths but the aphids do not damage the trees. It is too late to control the damage. Wreath makers may need to work harder gathering suitable foliage this fall between damage from twig aphid, shootboring sawfly and gall midge.

**\*Browntail Moth** (*Euproctis chrysorrhoea*) - The browntail moth population is centered around the lower portion of Merrymeeting Bay in Bath, Brunswick, Topsham, West Bath and Bowdoinham. The population is doing very well and may be on the increase again. Caterpillars are now entering the fifth instar and are at the stage where the danger to people of developing dermatitis and respiratory problems from contact with toxic hairs has increased significantly in infested areas. Spraying at this time will not prevent allergic reactions, as dead caterpillars have hairs too and those hairs will still be around.

**\*Birch Leafminer** (*Fenusa pusilla*) - Tiny developing mines, resembling translucent spots along the margins of the new leaves, have begun to appear in the southern half of the State and will likely show up by the end of the month in the north. Mines of another **white birch leafminer** (*Messa nana*) usually appear in June. There have been some reports, even in popular press, that birch leafminer is no longer a problem in the Northeast because of the success of an introduced parasitoid (*Lathrolestes nigricollis*). That cannot be said of birch leafminer in Maine, where the biological control has not been released.

**\*Gypsy Moth** (*Lymantria dispar*) – Winter egg mass surveys indicated continued low populations of gypsy moth this year. We have not seen any gypsy moth defoliation this year and none has been reported to date. If you see gypsy moth larvae, let us know, we are always interested in where this pest crops up and we can not be everywhere.

**\*Hemlock Woolly Adelgid (*Adelges tsugae*)** – The mobile stage of hemlock woolly adelgid, the crawler, is active this time of year and is easily transported. Take precautions, such as washing equipment and clothing, when moving from working around infested hemlocks to working around uninfested hemlocks. Crawlers will settle by early August. *Please report any suspected findings of hemlock woolly adelgid to the Insect and Disease Lab.*

**Oak Leafroller (Tortricidae) and others** – Oak defoliation was reported for the second year in a row along the I-95 corridor around Waterville by one of the agency's foresters. This year we got out in time to catch some of the insects doing the work. One of the major causes of damage was an oak leafroller, a member of the tortricid family. Similar defoliation has been found on several thousand acres in Vermont and New Hampshire. They have pupae and are awaiting adults for a positive identification of species. Perhaps the pupa and larvae collected in Fairfield will produce adults for identification here as well. Weevils, species are still being determined, were also in abundance and contributed to the chewing on the leaves. In addition to chewing damage on the leaves, stippling was also noted along with an army of froghopper nymphs. We left the site wondering what wasn't on those oaks!

**Pine Catkin Sawfly (*Xyela alpigena*)** – Observant homeowners in Belgrade brought us a sample of pine catkin sawfly from a mature white pine on their property. They noticed the 3/16<sup>th</sup> inch larvae in large numbers this year and determined they were coming out of developing cones on their pine. The pine catkin sawfly feeds on pollen within the developing male strobili of pines. *Cone and Seed Insects of North American Conifers* tells us that the species found on eastern white pine is *X. alpigena* and also offers some insights into their life history. The larvae dropping from the pine were headed for the ground, where they would tunnel as deep as three inches (a long distance for such small larvae) and spend 2 years as pre-pupae underground. The adults emerge from the soil in early spring and feed on pollen from some of the early flowering plants. The females deposit eggs into the pine strobili when they swell. Larvae disperse at the same time as the mature pine pollen. This is not an important pest of pine, but an interesting one.

**\*White Pine Weevil (*Pissodes strobi*)** - Infested terminal shoots on pine and spruce will begin wilting by the end of the month. Early detection and corrective pruning can minimize the long term impact of this pest. Wilting terminals should be cut off and destroyed - do not just leave them on the ground; the larvae will survive perfectly well lying on the ground.

**\*Yellowheaded Spruce Sawfly (*Pikonema alaskensis*)** – If you have young spruce that have had bare lateral branches especially near the top of the tree in past years, check for larval feeding now. You will see new foliage that looks a bit brown or is missing. Look closely as most people do not notice the yellow (orange)-headed, striped, green larvae until substantial amounts of foliage have already been eaten off the tree. If there are just a few larvae you can pick them off and drop them in a container of soapy water. Larger infestations can be controlled with spinosad (Success) or carbaryl (Sevin) to limit damage.

### **DISEASES AND INJURIES**

**Ash Anthracnose (*Gnomoniella fraxini*)** - Scattered locations of ash anthracnose have been seen in the mid-coast area, and this disease is likely occurring in other locations across the state. Several extended periods of wet weather have been especially favorable to the development of this disease. Although the disease rarely results in serious defoliation or mortality, the aesthetics of the trees in urban areas may become noticeably

damaged. It is now too late to apply preventive fungicides and achieve any reasonable level of effective control.

**Ash Leaf Rust** (*Puccinia sparganioides*) - Ash leaf rust, which can affect all species of native ash in Maine, has begun to appear in several southern and mid-coastal towns. Occurrence appears to be very scattered, and infection so far appears to be light, as in the past several years. Look for bright yellow to orange spotting on the leaves and new green twigs. Cupping, twisting, and other deformations of the affected leaves and twigs will also be evident, and canker lesions may become evident. Extensive infections cause brown foliage and early leaf loss. Generally, ash leaf rust does not seriously threaten tree health. However, heavy infections can develop in some years, and severe defoliation over two or three successive years can result in crown dieback and tree decline, and even in tree mortality.

**Balsam Fir Needle Casts** (*Lirula* spp. and *Isthmiella* spp.) – The native needlecast diseases of balsam fir have again been reported in Christmas tree plantations from Lincoln, Cumberland, Penobscot, and Piscataquis counties. Control with fungicides is difficult due to the extended infection period (throughout the spring and summer months), and the long life cycles. The needles infected the first year don't show symptoms until at least the second year, and fruiting of the fungus and needle loss does not occur until the third year or later. Fortunately for most plantations, cultural controls such as good weed control to allow rapid drying of foliage, are usually enough to keep the diseases in check. Genetic differences in disease resistance of planting stock have been suspected, but are as yet unproven.

**Dothistroma Needle Blight** (*Dothistroma septospora* [= *pini*]) – This needle disease of hard pines (red pine, Scotch pine ponderosa pine, Austrian pine and others) while not widespread or damaging in Maine historically, has apparently become much more prevalent in recent years. Last year samples of the disease were observed in Cape Elizabeth (Cumberland county) on red pine. This year, samples have been submitted from Hancock (Hancock county), also on red pine. Sometimes called the red-banded needle blight, the disease is most easily recognized by distinct red banding at the mid-point of needles that have fully expanded. Infected needles will usually turn brown from the mid-point to the tip over the course of the summer, and will be shed prematurely. Because the infection period occurs from mid- to late July, now is the time to consider applying a protective fungicide to affected trees. Fungicides including copper sulfate (Kocide, Bordeaux Mix) and thiophanate methyl (T-Methyl) are effective and registered for use in Maine. A second application is recommended two to three weeks after the first, especially if there are extended rainy periods.

**Frost** – In the May issue of the *Insect & Disease - Conditions* report we cautioned that late spring frosts may still occur. This year did not disappoint, with several widely scattered locations reporting frost conditions as late as last week. Spring frosts, or late frosts, can cause considerable damage because of the susceptible condition of succulent new tissues that are forming at that time of the year. Frosts can lead to injury of the cambium and living bark tissues as well as the death and injury of new shoots and leaves. Damage patterns are often localized, and can be closely associated with very slight changes in topography. Frost pockets or low, saucer-shaped areas where the cold air can settle and not flow off, can result in perennial problems with late frosts.

Frost damage of hardwoods usually appears as a rapid blackening of the tender young shoots and leaves. On conifers, the expanding buds and current-season growth can appear wilted, and eventually dries and browns with time. A few diseases can mimic frost symptoms on both hardwoods and conifers. The symptoms of frost injury on younger trees most often appear uniformly over the entire tree. Diseases are more likely to occur in a scattered pattern, or on only one side of the affected tree.

**Grey Mold** (*Botrytis cinerea*) – Grey mold has been identified from ornamental *Viburnum* from Winthrop, other woody ornamentals from the Augusta area (Kennebec county), and *Rhododendron* from Biddeford (York county). Like most foliage diseases, grey mold flourishes in cool, wet weather and where plants are shaded for most or all of the day. Grey mold is most damaging to seedlings and very young plants, and causes a condition known as “damping-off,” where the fungus causes the young stem to fail at the soil line. The samples received in the lab were from much larger plants, and the disease was causing a condition more similar to a leaf anthracnose. Protectant fungicides (copper sulfate, mancozeb, and others) are available and will be effective, but need to be applied earlier in the spring (before infections develop) to be reasonably effective. Cultural practices such as removing the blighted tips, pruning to thin overly-dense growth, and allowing good air circulation for rapid drying will also help to minimize the problem.

**Verticillium Wilt of Maples** (*Verticillium albo-atrum*; *V. dahliae*) – *Verticillium* wilt of maples is again becoming evident on street and backyard trees in many towns. *Verticillium* is a soil-borne fungus that induces a vascular wilt in maples. The fungus spreads in the vascular tissues by spores, produces toxins that kill cells, and blocks the trees ability to transport nutrients and water. The tree in turn produces defense compounds in an attempt to isolate infected cells to limit fungal movement in the tree. This isolation of infected vascular tissue reduces the flow of water from the roots upward. Leaves may wilt in portions of the canopy or on branches scattered throughout the crown, and may become chlorotic. Branch dieback may occur, and a general decline of the tree ensues. Peeling back the bark on infected branches may reveal an olive-green or greenish-brown discoloration of the sapwood. Norway maples are most susceptible, but sugar and red maples can also become infected. Expression of the disease is highly variable. Sometimes only a single branch may be affected, and the tree can fully recover. On other trees, a significant portion of the crown may die.

---

Conditions Report No. 3, 2009  
Maine Forest Service  
Forest Health and Monitoring Division